DRAFT CONSUMER and COMMERCIAL PRODUCTS SURVEY 2013, 2014 and 2015 DATA RELEASE

CARB Public Webinar January 15, 2019



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Survey Process Timeline

- Process Initiated: May 21, 2014
 - ❖ 2013 Data Reporting End: March 2, 2015
 - ❖ 2014 Data Reporting End: November 1, 2015
 - ❖ 2015 Data Reporting End: November 1, 2016
- 2013 and 2014 Preliminary Draft Release: June 4, 2018
- * 2013, 2014, and 2015 Draft Release: December 6, 2018
 - 2013, 2014, and 2015 Feedback Period Ends: March 6, 2019
- 2013, 2014, and 2015 Final Release: Spring 2019

2013 – 2015 Survey Scope

- 491 Survey Categories
- Approximately 1400 companies
- Approximately 1 million products
- Approximately 8.45 million product ingredients
- Aerosol Adhesives and Coatings: only sales for 2013
- Much larger scope than prior largest survey in 2003

Overview of QA/QC

- Consistency of Formulation Assignment to Products
- Completeness of Product Formulations
- Correctness of Product Category Assignments
- Appropriate units (sales, container fill, density et al)
- Correctness of chemical names and CAS numbers
- Address stakeholder feedback on current data release

Data Confidentiality

- Addressed in the design of survey reporting tools
- Incorporated in all steps of data processing
- Ensured in the previous and current Draft Data release

Documents for the December 6, 2018 2013 – 2015 Data Release

- Data Summary All Categories All Years
- TOG Speciation Summary Report All Years
- **❖** TOG Ingredients per Category Code − 2015 Only
- Number of Products per Responsible Party by Category Code2015 Only
- Survey Draft Chemical List and Assignments
- Survey Fate and Transport Adjustments
- Draft 2016 Fragrance Formulators Reporting Survey

All documents are posted at:

https://www.arb.ca.gov/consprod/survey/survey.htm

Reporting Format Updates From Initial Draft

- Updates made in response to stakeholder feedback
 - Moved all Liquid Fabric Softener products into correct category
 - 20919 Category was omitted from the reporting tool in error
 - Clarified the names of two survey categories
 - 30613 No Rinse Shampoo (Dry Shampoo and Conditioner)
 - 30201 Anti-microbial Dry Hand Wash (Hand Sanitizer)
 - Reevaluated product categorizations based on review of CARB category adjustments from individual responsible parties

Reporting Format Updates From Initial Draft

- Grouped certain chemical species that were reported as distinct ingredients into single TOG species for illustrative purposes
 - Citrus Terpenes
 - Non Citrus Terpenes
 - Hydrocarbons, C13-C18, Mixed Alkanes
 - Citronellas
- Reporting from additional responsible parties
- Other 2013 and 2014 product recategorizations based on 2015 quality assurance

2015 Category Exclusions

- * 179 Categories were excluded from 2015 reporting requirements
 - ❖ For these categories, 2014 data was projected for 2015 using a population growth factor of 0.83%
 - ❖ In 2014, these categories represented over 14% of reported products and over 11% of reported mass, but they were the source of less than 2% of reported VOC emissions.

Draft Data Summaries for 2013 - 2015

					Product Data	,	Emissions Data (Fate and Transport Adjusted)					
Category Code	Category Name	Reporting Companies		Sales (tpd)	Sales Weighted Average VOC Content (undiluted)	VOC	Speciation LYP- YOC Except Vater Other	VOC (tpd)	ROG (tpd)	TOG (tpd)	PWMIR (gO ₃ /g)	Ozone Forming Potential (tpd)
30602	Conditioner without styling claims	210	6305	133.63	0.88%			1.17	2.45	3.77	0.07	9.15
30603	Dye, permanent	46	6948	22.89	4.20%			0.96	2.45	2.45	0.31	7.02
30604	Dye, semi-permanent	31	1415	1.54	3.26%			0.05	0.14	0.14	0.30	0.47
30605	Dye, temporary*	26	364	1.29	9.79%			0.13	0.14	0.14	0.22	0.29
30606	Hair Finishing Spray	98	1058	18.91	53.16%			10.05	10.07	12.92	0.78	14.71
30607	Hair Mousse	79	434	5.73	5.54%			0.32	0.36	0.43	0.10	0.55
30608	Hair Shine	74	459	1.07	10.13%			0.11	0.13	0.57	0.20	0.21
30609	Hair Shine (aerosol)	27	102	0.13	42.36%			0.05	0.09	0.10	0.65	0.08
30610	Hair Styling Product (aerosol and pump spray)	110	939	4.41	6.32%			0.28	0.33	1.89	0.13	0.56
30611	Hair Styling Product (all other forms)	145	2902	17.23	1.21%			0.21	0.75	1.27	0.15	2.57
30612	Hair tonic/hair restorer	66	382	0.87	17.92%			0.16	0.22	0.25	0.46	0.41
30613	No Rinse Shampoo (Dry Shampoo and Conditioner)	67	308	1.10	81.75%			0.90	0.90	0.90	0.96	1.05
30614	Permanent Wave Treatment*	24	503	1.18	0.64%			0.01	0.02	0.02	0.07	0.09
30615	Shampoo	256	6231	197.54	0.65%			0.96	1.02	1.23	0.03	6.24
30616	Temporary Hair Color (aerosol)	11	145	0.37	49.56%			0.18	0.18	0.30	0.68	0.25
30617	Thermal Protectant	59	231	1.13	8.78%			0.10	0.12	0.28	0.19	0.21
30699	Other hair care products	132	2839	13.36	0.37%			0.05	0.17	0.41	0.03	0.44
	All Hair Care Products	319	32067	430.76	3.72%			15.70	19.57	27.13	0.10	44.41

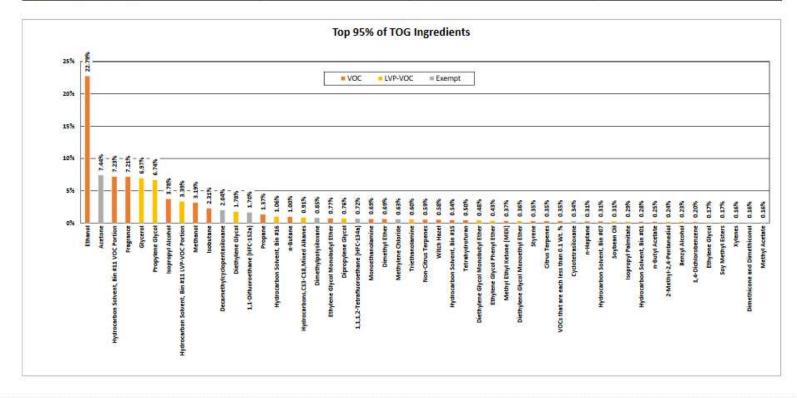
Speciation Summary Reports

2015 CARB Consumer and Commercial Product Survey

All Categories

Draft Data For Public Review

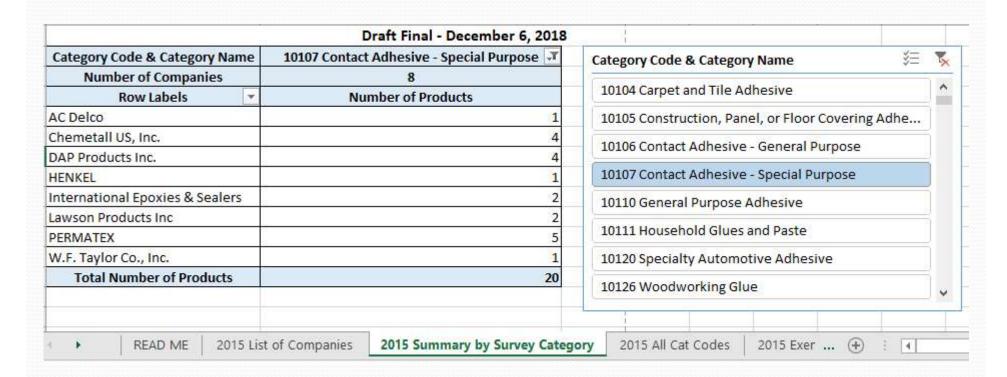
TOG (tpd)	255.8	ROG (tpd)	203.9
Sales Weighted Average PWMIR (gO3/g product)	0.00-1.41	VOC (tpd)	154.6
Speciation Based on Reported Product Formulations	80.9%	LVP-VOC (tpd)	49.3
Ozone Forming Potential (tpd)	452.23	Exempt (tpd)	51.8



TOG Ingredients per Survey Category (2015 Only)

Category Code	10107 J	Category Code	§≡ "	×			
Contact Adhesive - Special Pur	pose	Category Code					
Row Labels	CAS Number	10104					
Acetone	67641	10105					
Ethyl 2-Cyanoacrylate	7085850	10106					
Ethyl Acetate	141786	10106					
Methanol	67561	10107					
Methyl Acetate	79209	10110					
Methyl Ethyl Ketone (MEK)	78933	10110					
Methylcyclohexane	108872	10111					
n-Heptane	142825	10120					
n-Hexane	110543	10126					
Pentafluorobenzonitrile	773820	10126		~			
Toluene	108883			-			
VOCs that are each less than 0.1 Wt. %							

Number of Products per Responsible Party by Survey Category (2015 Only)



Chemical List and Assignments

Chemical Name	CAS#	VOC	LVP-VOC	Exempt
1,1,1,2,2,3,4,5,5,5-Decafluoropentane (HFC-43-10mee)	138495428	100		
1,1,1,2-Tetrafluoroethane (HFC-134a)	811972			100
1,1,1,3,3-Pentafluorobutane (HFC-365mfc)	406586	100		
1,1,1,3,3-Pentafluoropropane (HFC-245fa)	460731	100	33	
1,1,1,3,5,5,5-Heptamethyl-3-octyl-trisiloxane	17955883			100
1,1,1-Trichloroethane	71556	100	38	
1,1,2-Trichloroethane	79005	100		
1,1-Diethoxybutane	3658955	100	38	
1,1-Difluoroethane (HFC-152a)	75376			100
1,1-Propanediol	26264142	100	38	
1-Chloro, 2-methylbenzene	95498	100		
1,2,3,4-Tetrahydronaphthalene		100	38	
1,2,3-Trimethylbenzene	526738	100		
1,2,4-Trimethylbenzene	95636	100	38	
1,2,5-Triazine	9003081	100		
1,2-Butadiene	590192	100	3k 38	
1,2-Butylene Oxide	106887	100		
1,2-Dichlorobenzene	95501	100	38	
1,2-Dichloroethane	107062	100	10 10 10 10 10 10 10 10 10 10 10 10 10 1	
1,2-Hexanediol	6920225		100	
1,2-Pentanediol	5343920		100	
1,3,5-Trimethylbenzene	108678	100	38	
1,3-Butanediol	107880		100	

Fate and Transport Adjustments

Survey Code	Category Name	Adjustment Scenario
20309	Garbage Disposal Cleaner	В
20330	Septic Tank Cleaner	Α
20333	Soap Impregnated Scouring Pad	В
20334	Toilet/Urinal Care Product (aerosol)	В
20335	Toilet/Urinal Care Product (nonaerosol)	В
20401	Dish Detergent/Soap (manual)	В
20402	Dish Detergent/Soap (machine)	Α
20403	Dishwasher Sanitizer	A
20404	Film and Spot remover	A
20406	Pretreatment/Presoak	В
20407	Rinse Aid	A
20499	Other dishwashing products	Α
20507	Fabric and Carpet dye	В
20701	Charcoal Lighter Material	С

Adjustment	Foto Catagony	Emissions Discount Adjustment Factor for Speciation Categories						
Scenario	Fate Category	Fragrances	VOC	LVP-VOCs				
Α	Closed System (ie Dishwasher, Dryer, Washing Machine)	50%	90% for alcohols	90%				
В	Open System (ie Hand Dishwashing, Shaving, Shampooing, Mouthwashing)	25%	90% for alcohols	90%				
С	Combustion (ie Fire Log, Wood Fire Starter)	90%	90% for all VOCs	90%				

Review and Assessment of Draft Survey Data

Top 25 TOG Emissions Survey Categories

	2013 DATA			2014 DATA			2015 DATA	
Category Code	Category Name	TOG (tpd)	Category Code	Category Name	TOG (tpd)	Category Code	Category Name	TOG (tpd)
30606	Hair Finishing Spray	12.1	30606	Hair Finishing Spray	12.9	30606	Hair Finishing Spray	12.9
30201	Anti-microbial Wash (Hand Sanitizer)	11.4	30201	Anti-microbial Wash (Hand Sanitizer)	12.0	30201	Anti-microbial Wash (Hand Sanitizer)	12.5
30502	Personal Fragrance Product <=20%	10.6	30502	Personal Fragrance Product <=20%	10.6	30502	Personal Fragrance Product <=20%	10.5
30710	Rubbing Alcohol	10.2	20311	General Purpose Cleaner (nonaerosol)	9.2	70208	Brake Cleaner	9.3
70203	Auto Windshield Washer Fluid ("A")	8.0	60213	Multi-purpose Solvent (nonaerosol)	8.7	30710	Rubbing Alcohol	9.0
60213	Multi-purpose Solvent (nonaerosol)	8.0	70208	Brake Cleaner	8.7	70203	Auto Windshield Washer Fluid ("A")	8.9
70208	Brake Cleaner	7.9	30710	Rubbing Alcohol	8.1	20903	Detergent	7.2
30404	Hand and Body Conditioner, Lotion, etc.	7.2	70203	Auto Windshield Washer Fluid ("A")	7.0	20311	General Purpose Cleaner (nonaerosol)	7.1
20311	General Purpose Cleaner (nonaerosol)	7.2	20305	Disinfectant (aerosol)	6.9	30101	Antiperspirant	6.9
20102	Air Freshener, Single Phase Aerosol	6.4	20903	Detergent	6.9	30404	Hand and Body Conditioner, Lotion, etc.	6.8
30101	Antiperspirant	6.0	30404	Hand and Body Conditioner, Lotion, etc.	6.6	60213	Multi-purpose Solvent (nonaerosol)	6.3
20903	Detergent	5.9	60211	Lacquer Thinner	5.1	20305	Disinfectant (aerosol)	6.3
20305	Disinfectant (aerosol)	5.8	20102	Air Freshener, Single Phase Aerosol	4.6	21013	Multi-purpose Lubricant (solid and semisolid)	4.7
60211	Lacquer Thinner	5.3	21013	Multi-purpose Lubricant (solid and semisolid)	4.5	60211	Lacquer Thinner	4.5
30102	Deodorant	4.6	20104	Air Freshener, liquid/pump spray	4.4	20104	Air Freshener, liquid/pump spray	4.5
20104	Air Freshener, liquid/pump spray	4.5	10115	Plastic Pipe Cement and Primer	4.2	60216	Paint Thinner (nonaerosol)	
40403	Crawling Bug Insecticide (aerosol)	4.4	30101	Antiperspirant	4.2	20102	Air Freshener, Single Phase Aerosol	4.3
21013	Multi-purpose Lubricant (solid and semisolid)	4.1	60214	Paint Remover or Stripper	3.9	40403	Crawling Bug Insecticide (aerosol)	4.2
60214	Paint Remover or Stripper	3.5	30602	Conditioner without styling claims	3.8	20313	General Purpose Degreaser (nonaerosol)	3.8
30602	Conditioner without styling claims	3.4	30102	Deodorant	3.7	30602	Conditioner without styling claims	3.8
20313	General Purpose Degreaser (nonaerosol)	3.3	20313	General Purpose Degreaser (nonaerosol)	3.5	30102	Deodorant	3.6
60216	Paint Thinner (nonaerosol)	3.0	40403	Crawling Bug Insecticide (aerosol)	3.4	30411	Sunscreen (hair or body) (aerosol)	3.6
20103	Dual Purpose Air Freshener/etc. (aerosol)	2.6	30411	Sunscreen (hair or body) (aerosol)	3.2	60214	Paint Remover or Stripper	3.4
30705	External Analgesic Product	2.6	60216	Paint Thinner (nonaerosol)	2.7	20103	Dual Purpose Air Freshener/etc. (aerosol)	2.7
30411	Sunscreen (hair or body) (aerosol)	2.5	20103	Dual Purpose Air Freshener/etc. (aerosol)	2.4	30603	Dye, permanent	2.5

Review and Assessment of Draft Survey Data

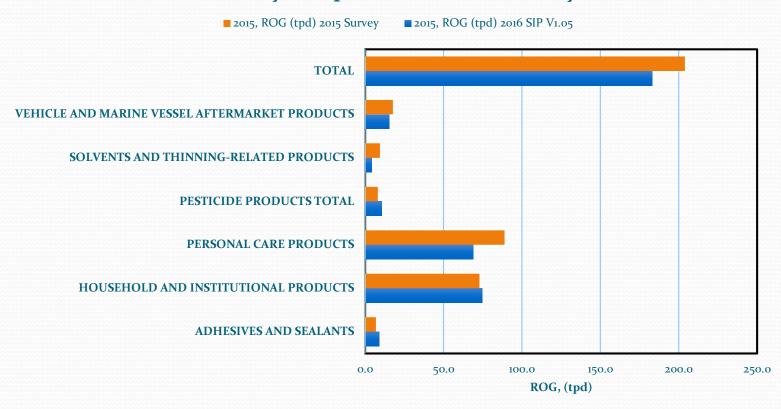
Top 25 Ozone Forming Survey Categories

	2013 DATA			2014 DATA		2015 DATA				
Category Code	Category Name	Ozone Forming Potential (tpd)		Category Name	Ozone Forming Potential (tpd)	Category Code	Category Name	Ozone Forming Potential (tpd)		
20311	General Purpose Cleaner (nonaerosol)	26.2	20311	General Purpose Cleaner (nonaerosol)	33.1	20903	Detergent	31.5		
20104	Air Freshener, liquid/pump spray	25.9	20903	Detergent	29.4	20311	General Purpose Cleaner (nonaerosol)	27.3		
20903	Detergent	24.5	20104	Air Freshener, liquid/pump spray	24.2	20104	Air Freshener, liquid/pump spray	25.4		
30502	Personal Fragrance Product <=20%	20.2	30502	Personal Fragrance Product <=20%	19.7	30502	Personal Fragrance Product <= 20%	19.8		
30404	Hand and Body Conditioner, Lotion, etc.	19.3	30201	Anti-microbial Wash (Hand Sanitizer)	18.3	30201	Anti-microbial Wash (Hand Sanitizer)	19.0		
30201	Anti-microbial Wash (Hand Sanitizer)	17.4	30404	Hand and Body Conditioner, Lotion, etc.	16.7	30404	Hand and Body Conditioner, Lotion, etc.	17.1		
30606	Hair Finishing Spray	15.8	30606	Hair Finishing Spray	15.5	30606	Hair Finishing Spray	14.7		
30999	Other nail care products	13.0	20919	Liquid Fabric Softener	11.6	20919	Liquid Fabric Softener	11.2		
21405	Floor Wax Stripper	11.8	20153	Scented Candle	11.5	20153	Scented Candle	10.5		
20919	Liquid Fabric Softener	11.7	10115	Plastic Pipe Cement and Primer	10.8	20305	Disinfectant (aerosol)	9.7		
30102	Deodorant	10.5	20305	Disinfectant (aerosol)	10.6	20313	General Purpose Degreaser (nonaerosol)	9.6		
20153	Scented Candle	10.1	20313	General Purpose Degreaser (nonaerosol)	9.6	30207	Body Wash/Mousse/Gel/Soap/Foam/Scrub	9.4		
30710	Rubbing Alcohol	10.1	30602	Conditioner without styling claims	9.4	30602	Conditioner without styling claims	9.1		
20313	General Purpose Degreaser (nonaerosol)	9.4	21405	Floor Wax Stripper	9.1	30102	Deodorant	8.0		
20305	Disinfectant (aerosol)	9.0	30207	Body Wash/Mousse/Gel/Soap/Foam/Scrub	8.7	21405	Floor Wax Stripper	7.9		
30207	Body Wash/Mousse/Gel/Soap/Foam/Scrub	8.8	30102	Deodorant	8.1	30603	Dye, permanent	7.0		
30602	Conditioner without styling claims	7.5	31202	Pet Care Products (pet litter, etc.)	7.8	30615	Shampoo	6.2		
20102	Air Freshener, Single Phase Aerosol	7.3	30615	Shampoo	6.5	70203	Auto Windshield Washer Fluid ("A")	5.9		
30615	Shampoo	5.6	30215	General Use Hand or Body Cleaner or Soap	5.6	30710	Rubbing Alcohol	5.7		
70203	Auto Windshield Washer Fluid ("A")	5.5	30603	Dye, permanent	5.5	30215	General Use Hand or Body Cleaner or Soap	5.6		
30705	External Analgesic Product	4.9	60213	Multi-purpose Solvent (nonaerosol)	5.1	31202	Pet Care Products (pet litter, etc.)	5.5		
60213	Multi-purpose Solvent (nonaerosol)	4.9	20102	Air Freshener, Single Phase Aerosol	5.1	30411	Sunscreen (hair or body) (aerosol)	5.4		
60216	Paint Thinner (nonaerosol)	4.8	30710	Rubbing Alcohol	5.0	20102	Air Freshener, Single Phase Aerosol	4.5		
31202	Pet Care Products (pet litter, etc.)	4.3	30411	Sunscreen (hair or body) (aerosol)	4.7	30101	Antiperspirant	4.2		
30215	General Use Hand or Body Cleaner or Soap	4.3	70203	Auto Windshield Washer Fluid ("A")	4.7	20401	Dish Detergent/Soap (manual)	4.1		

Review and Assessment of Draft Survey Data

Comparison of 2015 Survey to SIP Inventory

Survey Comparison to SIP Inventory



Draft 2016 Fragrance Formulators Reporting Survey

	Fragrance F	ormulation Speciation Profile	
VOC Compounds Reported	141	LVP-VOC Compounds Reported	123
VOC Range of Formulations	0.6%-100.0%	Survey Categories Represented	23
Unknown/Not Specified Compounds	61.6%	Products Represented	362
Reported TOG Compounds	38.4%	PWMIR Range (g O3/g Fragrance)	0.73-4.46
VOC % of TOG	46.6%	Fragrance Mass Represented By Reported	8.1%
LVP-VOC % of TOG	53.4%	Fragrance Formulations	0.176

- 7.8% of 2013 Survey TOG mass was reported as either "Fragrance" or a specific fragrance trade name
- Fragrance was the second-highest TOG ingredient by mass in 2013
- Fragrance Formulators Survey requested formulations for trade names for representative products in high TOG categories
- Received formulation data represented 8.1% of fragrance mass
- Vast majority of fragrance survey mass was not speciated
- We may be reengaging with fragrance stakeholders in 2019 to further refine our understanding of fragrances

Next Steps

- Outstanding specific responsible party inquiries
 - Comment period ends March 6, 2019
- Final survey data release in Spring 2019
- Initiate rulemaking process in Spring 2019
 - Parallel process to update SIP Inventory
 - Emission reductions needed to meet SIP commitments in 2023 and 2031
 - Board consideration by the end of 2020

Final Survey Data Release Comment Period

Deadline: March 6, 2019

Contacts:

Joe Calavita, Manager

Telephone: 916-445-4586

email: joe.calavita@arb.ca.gov

Josh Berghouse

Telephone: 916-324-8174

email: Josh.Berghouse@arb.ca.gov